Journal of Indonesian Economy and Business
Volume 32, Number 1, 2017, 19 – 32

THE IMPACT OF FEMALE DIRECTORS ON FIRM PERFORMANCE: EVIDENCE FROM INDONESIA

Triana

Faculty of Economics and Business, Universitas Gadjah Mada, Indonesia
(trianatan@mail.ugm.ac.id)

Marwan Asri

Faculty of Economics and Business, Universitas Gadjah Mada, Indonesia
(marwan.asri@ugm.ac.id)

ABSTRACT

This research shows the impact of female directors on firm performance in Indonesia by using as its sample the public companies listed on the Indonesian Stock Exchange (IDX) from 2011 until 2015. There were 347 companies, with 1,735 samples observed. This research uses the multiple regression method. The model is a modified model from 9 recent articles published between 2012 and 2015. The empirical result shows that a female director has a positive significant effect on firm performance. The control variables, consisting of leverage, firm size and firm age have negative significance for firm performance. This research is conducted across 9 sectors of industrial classification, which support the International Finance Corporation (IFC) in increasing the number of female directors in Indonesia. For managers, this research will promote gender development in the boardroom, female executive training programmes as well as female representation on boards of directors. For regulators, this research may provide a contribution to gender representation in board's policies, rules and regulations. This research can build awareness of women's contributions to firms and encourage a greater female presence in the boardroom.

Keywords: *female, firm performance, behavior, firm characteristics*

INTRODUCTION

Corporate governance consists of either a one-tier or a two-tier board system (Jungmann, 2006). A one-tier board invests both managerial and supervisory activities in one unified board of directors. However, a two-tier board separates the managerial board and the supervisory board. This research focuses on the executive board or the board of directors. The board of directors acts as an internal governance mechanism via its appointment, supervision and remuneration of senior managers, as well as its framing of corporate strategy (Campbell & Vera, 2010). In this era, the presence of women on boards of directors have increased (Dezso & Ross, 2012).

McKinsey (2007) mentioned that female directors have leadership traits that increase their firms' financial performance. The empirical result shows firms with women on their boards can increase their Return on Equity (ROE) by 10 percent, operating income by 48 percent and stock growth by 17 percent compared to the industry averages. Eagly and Johannesen-Schmidt (2001), highlighted that the presence of female directors improves five leadership traits which are people development, expectations and rewards, becoming a role model, providing inspiration and participative decision making.

McKinsey (2010) shows about 72 percent of directors are aware that female directors can increase a firm's performance. The research of Folkman (2012) on 7,280 leaders has proven female directors are superior in their leadership competencies. According to George (2012), a global leader not only needs a high level of cultural and emotional intelligence but also an awareness of their values, purpose and vulnerabilities. Female directors are said to

possess higher levels of awareness and demonstrate this type of behavior more easily.

According to Dieleman and Aishwarya (2012), the percentage of female directors and commissioners in Indonesia is 11.6 percent. This number is lower than Europe (17 percent), North America (17.1 percent) and Australia (13.8 percent), however, the presence of women in the boardroom in Indonesia is greater than in other developed countries in Asia. The latest study indicates that Indonesia has a higher percentage of female board members than Hong Kong (10.3 percent), Malaysia (7.3 percent), Singapore (7.3 percent) and Japan (1.1 percent), as represented across various sectors of industry.

Dieleman and Aishwarya (2012) examined boardroom's gender diversity, which could be used as an indicator of firm's success. The previous result shows about 40 percent of firms listed on the Indonesian Stock Exchange (IDX) had more than one female director. According to the Deloitte Global Center for Corporate Governance (2015), the women of Indonesia are increasingly moving away from their more traditional roles of wife and mother. Indonesian women are more actively working and pursuing careers.

Numerous studies have shown the impact of female directors on firm performance. These focused on the countries where a two-tier board system is applied. Boards of directors with female members tend to increase their firms' performance (Frink *et al*., 2003; Erhardt *et al*., 2003; Krishnan & Daewoo, 2005; Smith, 2006; Dezso & Ross, 2012; Liu *et al*., 2014; Gulamhussen & Santa, 2015).

Other research has found that female directors have no impact on firm performance (Ellwood & Garcia-Lacalle, 2015). Joecks *et al*. (2013) mentioned that female directors, at first, negatively affect their firms' performance, and only after the critical figure of about 30 percent female directors has been reached can they be associated with higher firm performance than a completely male board. On the other hand, Darmadi (2010) and Lam *et al*. (2013) mentioned female directors will decrease the performance of their firms. There are various positive and negative opinions towards the empirical results on this topic that covers different research locations and samples. Therefore, this research aims to investigate the impact of female directors on firm performance in Indonesia, specifically by using five-years data across all the sectors of industry, which has not been examined by the previous literature. This research shows the effect of female executives on firm performance in various sectors including the trade, the service and investment sector, the agricultural sector, the financial sector, the property, real estate and building construction sector, the miscellaneous sector, the consumer goods sector, the mining sector, the infrastructure, utility and transportation sector, the basic industry and the chemicals sector. This research supports the International Finance Corporation (IFC) in increasing the number of female directors in Indonesia. For its managerial and practical contributions, this research will promote gender development in the boardroom, female executive training programmes as well as increasing the female composition of Indonesian boards of directors.

LITERATURE REVIEW

The Implicit Leadership Theory views leadership as the outcome of a perceptual process involving both leaders and subordinates. The central idea is the implicit belief about the personal qualities and behaviour of leaders. Leaders affect the performance of subordinates through their behaviour, traits, charismatic qualities and the ability to structure situations and define roles (Levy, 2003: 394).

The implication is that leadership's effectiveness is more about the followers' perceptions, rather than about the leaders' actions. In order to get the attention of their followers, leaders' traits become a concern. Subordinates will look at how their leaders behave, communicate, and develop an impression about their effectiveness. Female leaders gain attention through their communication and relationship-building skill with their subordinates. Hence, female leaders will leave a

good impression and thus recall good previous leaders' behavior and traits, which will lead toward better performance.

According to the Social Role Theory, the differences between male and female behaviour are a function of the different roles men and women hold in society. This theory views gender differences between males and females as the cause of their different roles, especially at work (Eagly, 1987). Social Role Theory focuses on the structure of society and its roles, which form the behaviour of a group of people (Helgeson, 2012:165). Currently, gender and role orientation's focus on masculinity and femininity is associated with their social role at work rather than by gender (Eagly *et al*., 2000 in Eckes & Trautner, 2000). Masculinity, which is mostly attributed to males, can be possessed by females and femininity is also found in both genders. Althoug, it is more in the role itself rather than the gender.

The way labour is divided between women and men in society accounts for why women become communal and men become agentic. Men are primarily responsible for work outside the home, which leads to their agentic orientation. Women are primarily responsible for domestic labour and taking care of children, which leads to a communal orientation. However, this traditional perspective has been changed. Nowadays, women may lead in the corporate world because of their work ethic, environmental and social concerns. Ibarra and Obodaru (2009) mentioned that female executives who possess score higher for certain effectiveness criteria than male executives on their study.

Hambrick (2007) mentioned that the leadership of a complex organization is a shared activity and the collective cognition, capabilities and interaction of the entire Top Management Team (TMT) enter into this strategic behaviour. The psychological and social processes by which executive profiles are converted into strategic choice remains a mystery. Gender remains one of the aspects of these psychological and social processes. Gender splits between male and female executives who occupy strategic leading roles can boost the performance of their companies.

The conflict of interest between both the principal and agent in Agency Theory (Jensen & Meckling, 1976) can be improved because female executives are more cautious than male executives in making important corporate decisions (Huang & Kisgen, 2013). Female executives are more diligent in their monitoring and demand more audit efforts than male directors do (Adam & Ferreira, 2009). It is due to a board's diversity needing a high degree of independence. Female directors' oversight could also minimize agency issues (Erhardt, 2003). Women are better able to lower operating costs (Chakrabarty & Bass, 2014) and improve the financial performance (Strom *et al*., 2014).

Moreover, the basic proposition of the Resource Dependency Theory is the need for environmental linkages between the firm and its outside resources. In this perspective, directors serve to connect the firm with the required external factors by co-opting the resources needed for it to survive (Pfeffer & Salancik, 1978). Pfeffer and Salancik (1978) attribute three benefits to these corporate board linkages: advice and counsel, legitimacy and communication channel. Women have the advantage when it comes to advice and counsel as well as legitimacy. As for communication channels, women leaders' perspectives are better equipped to connect their firms to customers, labour and society at large (Liu *et al*., 2014).

1. Hypothesis development

Erhardt *et al*. (2003) examined the relationship between the demographic diversity of boards of directors with the firms' performance by using 1993's and 1998's financial performance data and the percentage of women and minorities for 127 large US companies. The result shows that board diversity is positively associated with firm performance. The same result was indicated by Frink *et al*. (2003) from 500 randomly selected firms in Dun and Bradstreet's list of publicly traded firms between 1978 and 1992. The research found gender diversity leads to better firm performance. Female directors performed a

better monitoring role and minimise agency issues.

Krishnan and Daewoo (2005) in research into the upper echelon framework of top management, mentioned that the proportion of female directors has positively significant effect on firm performance. This research was conducted on 679 Fortune 1,000 companies registered since 1998 and leads to large implications for future career women. Smith *et al*. (2006) researched 2500 companies in Denmark, and the result showed that a more gender diverse board may also improve a firm's competitive advantage as well as its corporate image and has a positive effect on customers' behaviour.

Francoeur *et al*. (2006) undertook research in Canada and found empirical evidence that having a higher proportion of women does generate positive and significant abnormal returns. Ibarra and Obodaru (2009) in the Harvard Business Review mentioned women's effectiveness in top management scored higher than men's did. This research was conducted by using a 360 degree assessment of the executive development program in INSEAD. Miller and Triana (2009) mentioned that women will increase firm performance. Post and Byron (2015) combined 140 studies that examined empirical evidence that a female director is positively significant for firm's performance.

Dezso and Ross (2012) mentioned that female representation in top management will enrich the information and social diversity of a board, which can bring benefits to management, enrich the manager's behaviour and motivate the women in middle management. Hence, female representation remains an important indicator of the success of firms.

According to Darmadi (2010), the proportion of female directors is negatively significant to firm performance in Indonesia. This research was conducted over 1 year period, using as its sample 169 companies listed on the Indonesian Stock Exchange (IDX). The research focused on examining whether women, foreign nationals and younger people in the boardroom influenced the firms' performance, but was unable to prove any significant impact. Furthermore, Lam *et al*. (2013) in their research into the China Stock Market Financial Statements and the Shenzhen Stock Exchange, found female directors are negatively significant to firm performance.

Liu *et al*. (2014) examined the statement that firm performance is positively related to gender diversity and found that a critical mass of at least three women is needed to obtain a positive effect. Peni (2014) in research into 305 companies using 1,525 data observation from Standard and Poor 500 (S&P 500) found empirical evidence that among female CEO leads to better firm performance.

Garcia-Meca *et al*. (2015) suggest the presence of women on the boards of banks improves their governance, which causes the bank to be more profitable. The findings suggest women directors are not a substitute for the traditional corporate directors with identical abilities, but rather that these qualified women directors have unique characteristics that create additional value for the banks.

Ellwood and Garcia-Meca (2015) examined the empirical evidence by using annual reports and financial statements posted by National Health Service Foundation Trusts (NHSFTs) in England during 2008/2009, 2009/2010, 2010/2011 and found that female directors made no significant contribution to the trusts' performance. However, Dezso and Ross (2012), Peni (2014), Labelle *et al*. (2015), Gulamhussen and Santa (2015) have proven that a female director is positively significant to a firm's performance. Table 1 shows the summary of 15 previous studies.

Numerous studies into female directorships and firm performance have been conducted. However, they reported the different results. Thus, the hypothesis will be as follows.

H_1: Female director will have positive impact on firm performance.

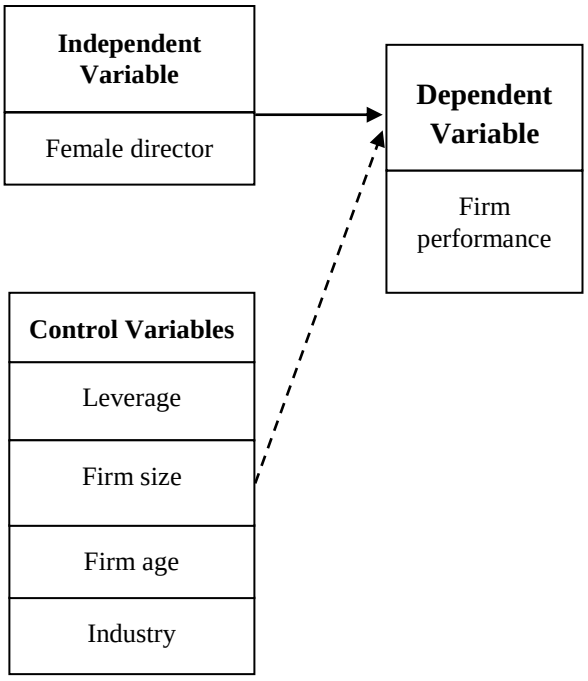
Table 1. Previous Research into Female Directors effect on Firm Performance

Name (year)	Female director measurement	Firm performance measurement	Data	Result
Gulamhussen & Santa (2015) Global Finance Journal	Proportion of women in top management	ROA, ROE, net interest income to total income of assets and Tobin's Q	461 banks in OECD countries and 134 public listed banks.	Significant and positive
Ellwood & Garcia-Lacalle (2015) Journal of Business Ethics	Proportion of women in top management	ROA	Annual reports and financial statements of National Health Service Foundation Trusts (FTs) England year 2008/2009, 2009/2010, 2010/2011	Not significant
Labelle *et al*. (2015) Gender, Work and Organization	Proportion of women in top management	ROA	Relevant documentation on 17 countries by using 1,691 data observation with enabling methods and voluntary information (2009 and 2011)	Significant and positive
Emma Garcia-Garcia-Meca, Isabel-Maria Garcia-Sanchez, Jennifer Martinez-Ferrero (2015) Journal of Banking and Finance	Proportion of women in top management	Tobin's Q	159 banks in 9 countries (2004-2010)	Significant and positive
Emilia Peni (2014) Journal of Management Governance	Dummy women, 1 if CEO is women, 0 if otherwise	Tobin's Q and ROA	305 firms and 1,525 data observations in S&P 500	Significant and positive
Liu *et al*. (2014) Journal of Corporate Governance	1. Proportion of women in top management. 2. Dummy women, 1 if director is women, 0 if otherwise	ROA and ROS	16,964 data observed in Chinese Securities Market and Accounting Research (CSMAR) (1999-2001)	Significant and positive
Gulamhussen & Santa (2015) Global Finance Journal	Proportion of women in top management	ROA, ROE, net interest income to total income of assets and Tobin's Q	461 banks in OECD countries and 134 public listed banks.	Significant and positive
Ellwood & Garcia-Lacalle (2015) Journal of Business Ethics	Proportion of women in top management	ROA	Annual reports and financial statements of National Health Service Foundation Trusts (FTs) England year 2008/2009, 2009/2010, 2010/2011	Not significant
Labelle *et al*. (2015) Gender, Work and Organization	Proportion of women in top management	ROA	Relevant documentation on 17 countries by using 1,691 data observation with enabling methods and voluntary information (2009 and 2011)	Significant and positive
Emma Garcia-Garcia-Meca, Isabel-Maria Garcia-Sanchez, Jennifer Martinez-Ferrero (2015) Journal of Banking and Finance	Proportion of women in top management	Tobin's Q	159 banks in 9 countries (2004-2010)	Significant and positive

Source: Data processed (2017)

2 Research Model

There are 37 previous published studies about females in the boardroom and their effect on firm performance spread over both two-tier board and one-tier board systems. Based on previous hypotheses formulations, the research model is described in Figure 1. The model is modified from 15 articles about the effect of female directors on firm performance in two-tier board countries, as previously researched. Nine of these 15 articles were studies conducted from 2012 to 2015. The independent variable is created using the gender construct, while the control variables are created using the firm characteristics' construct.



Source: Data processed (2017)

Figure 1. Research Model

METHODOLOGY

1. Population and Sample

This research uses the quantitative research method. The study examines all the public listed companies on the Indonesian Stock Exchange (IDX) as population. The sample used is from 2011 to 2015, therefore the total sample is 1,735 data observation. Secondary data are sourced from the Indonesian Stock Exchange's (IDX) website and the companies' official website. This study is using purposive sampling with the following criteria:

1. Audited annual reports posted in *www.idx.co.id* from 2011 to 2015.
2. Audited annual reports with complete data of firm performance, female directors, leverage, firm age, firm size and in the selected nine sectors of industry.

2. Regression Model and Variables

The dependent variable used in this study is firm performance measured by Tobin's Q. The researcher used Tobin's Q as the firms' performance measurement because the aim was to measure market performance as a reflection of firms' long-term performance (Combs *et al*., 2005; Gentry & Shen, 2010 in Post & Byron, 2015). Tobin's Q can be calculated as follows:

TOBIN's Q = The sum of the market price of equity and the total book value of the liabilities divided by the total book value of the assets.

Female directors is the independent variable used in this research. This variable is measured by the proportion of female directors on each board. Female directors can be calculated as follows:

PWOMEN = Total number of female directors divided by the total number of directors.

This study would like to employ firm characteristics' construct as the control variables. The control variables are leverage, firm age, firm size and industry. Leverage is measured by the total book value of the liabilities divided by the total book value of the assets. Firm age is measured by the number of years since the company's IPO, until the sample year. Total assets are measured by the natural logarithm of the total book value of the assets (Campbell & Vera, 2008). The selected industries consist of the agricultural sector, the mining sector, the basic industry and chemical sector, the miscellaneous sector, the consumer goods sector, the property, real estate and

building construction sector, the infrastructure, utilities and transportation sector, the finance sector and trade, services and investment sector.

3. The Main Model and Estimation Methods

For the model's selection, the researcher used the following models.

Equation 1.1

$$Q = \beta_0 + \beta PWOMEN + \beta LEVERAGE + \beta SIZE + \beta AGE + \beta INDUSTRY + \varepsilon \quad (1)$$

Equation 1.2

$$Q = \beta_0 + \beta PWOMEN + \beta LEVERAGE + \beta SIZE + \beta AGE + \varepsilon \quad (2)$$

Equation 1.3

$$Q = \beta PWOMEN + \beta LEVERAGE + \beta SIZE + \beta AGE + \varepsilon \quad (3)$$

The following is the main regression model:

$$Q = \beta_0 + \beta PWOMEN + \beta LEVERAGE + \beta SIZE + \beta AGE + \beta INDUSTRY + \varepsilon \quad (1)$$

This model was selected as the best model according to the model's selection criteria, consisting of R-Square (R^2), Mean Square Error (MSE), Adjusted R-Square, Predicted Residual Sum Square (PRESS), Cp Mallows, Akaike Information Criterion (AIC) and Schwarz Bayesian Criterion (SBC) as shown in Table 2.

Furthermore, this best model was used in a regression employing a multiple linear regression with classical assumptions consisting of test for normality, a test for multicollinearity, a test for autocorrelation and a test for heteroscedasticity. Then, an F-test and independent t-test were conducted to examine the significance level of each variable simultaneously and individually.

RESULTS

Descriptive Statistic

From the data observation, there are companies where all members of the board of directors are female. One is PT Ristia Bintang Mahkota Sejati Tbk (in 2014), which operates in the property, real estate and building construction sector. Another is PT Pool Advista Indonesia Tbk which operated in the trade, services and investment sector (from 2011 to 2015). PT Inti Agri Resources Tbk involved in the agricultural sector (from 2012 to 2015) is another (Table 3).

Table 2. Model Selection Criteria Result

Equation	R^2	Adjusted R^2	SE	PRESS	Cp Mallow	AIC	SBC
1.1	0.198	0.192	102.069	1,823.62	13	84.024	154.988
1.2	0.095	0.093	108.135	2,036.48	5	276.372	303.666
1.3	0.245	0.243	108.161	2,035.45	4	276.211	298.046

Source: Data processed (2017)

Table 3. Descriptive Statistic

	N	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
Female directors	1,735	0.000	1.000	0.139	0.183
Leverage	1,735	0.000	11.84	0.578	0.638
Firm size	1,735	5.081	910,063,409	17,954,444	68,823,520
Firm age	1,735	0.020	36.64	14.623	7.924
Firm performance	1,735	0.010	37.19	1.186	2.166
Valid N (listwise)	1,735				

Source: Data processed (2017)

PT Bank Mandiri Tbk is the biggest Indonesia bank in terms of assets. It has total assets of Rp. 910.063 trillion. PT Rimo Internasional Lestari Tbk which operates in the trade, services and investment sector had the highest leverage ratio in 2013. The newest company is PT Greenwood Sejahtera Tbk which is active in the property, real estate and construction sector, while the oldest company is PT Century Textile Industry Tbk which is in the miscellaneous sector. PT Inti Kapuas Arowana Tbk has a Tobin's Q of approximately 37.19. The average for the firm performance in Indonesia between 2011 to 2015 is 1.186. All the sectors in Indonesia have female directors, but in some their numbers are limited compared to the number of male directors. The detailed percentage of female directors in Indonesia across various industries is shown in Table 4.

Table 4. Indonesia Board of Director Gender Classification (in %)

Sector Classification in Indonesia	Female Directors (%)	Male Directors (%)
Agriculture	4.3	95.7
Trade, services and investment	22.8	77.2
Finance	11.8	88.2
Property, real estate and building construction	13.0	87.0
Miscellaneous	9.5	90.5
Consumer goods	7.8	92.2
Mining	8.4	91.6
Infrastructure, utility and transportation	8.6	91.4
Basic industry and chemical	13.8	86.2

Source: Data processed (2017)

The trade, services and investment sector has the highest representation of female directors, followed by the basic industry and chemical sector and the property, real estate and building construction sector. The sector with the least representation is the agricultural sectors.

DISCUSSION

The independent t-test shown in Table 7, indicates that female directors are positively significant for firm performance with a significance level of 0.003, thus Hypothesis 1 is supported. The control variables consisting of leverage, firm size and firm age are negatively significant for firm performance with significance levels of approximately 0.000, 0.028 and 0.001, respectively. Some sectors have significance on firm performance, while some do not.

The result is consistent with the previous empirical findings from Frink *et al*. (2003), Erhardt *et al*. (2003), Krishnan and Daewoo (2005), Smith *et al*. (2006), Francoeur *et al*. (2008). Furthermore, the empirical findings are also consistent with the research of Dezso and Ross (2012) into the S&P 1500, Peni (2014) into the S&P 500, Labelle *et al*. (2015) who carried out research in 17 countries, Liu *et al*. (2014) who examined China, Gulamhussen and Santa (2015) who looked at banks of the OECD countries as well as Garcia-Meca *et al*. (2015).

Having a female director will improve the firm's performance. Garcia-Meca *et al*. (2015) mentioned that the presence of female directors would cause a bank to be more profitable. Qualified female directors have unique characteristics that create additional value for banks. More female directors may reduce the asymmetry information and associated agency costs. Women often bring a fresh perspective on complex issues and this can help correct informational biases in strategy formulation and problem solving (Francoeur *et al*., 2008).

Female directors can lead to better firm performance because women tend to be more risk averse and cautious in their decision making. Females tend to think about the wider impacts in democratic and participatory way (Dezso & Ross, 2012). In the realm of social responsibility, female directors care more about the corporate social responsibility and moral issues of their businesses. Moreover, female directors possess better communication skills and listening skills in day-to-day operations (Peni, 2014).

However, this study does not support the empirical findings from Darmadi (2010) in Indonesia and Lam *et al*. (2013) which mentioned female directors reduce firm performance. On the other hand, the empirical findings do not support the results from Joecks *et al*. (2013), Ellwood and Garcia-Lacalle (2015) which mentioned that female directors have no significant effect on firm performance.

Tabel 7. Independent t-test Result

Variables	*Unstandardised Coefficients* B	t	Sig.
Constant	0.108	0.492	0.623
Female director*	0.413	2.987	0.003
Leverage*	-0.271	-8.743	0.000
Firm size**	-0.031	-2.201	0.028
Firm age*	-0.105	-3.456	0.001
Agriculture	0.065	0.496	0.620
Finance*	-0.651	-6.749	0.000
Property, real estate and building construction	-0.077	-0.885	0.376
Miscellaneous*	-0.702	-7.255	0.000
Consumer goods*	0.686	6.681	0.000
Mining	-0.095	-0.941	0.347
Infrastructure, utility and transportation	-0.068	-0.670	0.503
Basic industry and chemical*	-0.505	-5.949	0.000
Number of observation	1,735		
F-statistics	35.336		
Prob > F	0.000		
R^2	0.445		
Adjusted R^2	0.192		

* Significant level at α 1%
** Significant level at α 5%

From the sectoral view, the trade, services and investment sector become the reference category. Hence, women's representation in the agricultural sector is not significant for firm performance. The same case is found for the property, real estate and construction sector, the mining sector and the infrastructure, utility and transportation sector. Meanwhile, the finance sector, the miscellaneous sector and the basic and chemical sector are not better than than the trade, services and investment sector with significant negative sign. The consumer good sector is better than the trade, services and investment sector.

CONCLUSION

This research used the multiple regression method to analyse the data. The result proves that a female director has a significantly positive effect on firm performance. The findings are useful to a contribution for various parties, such as academics, practitioners and regulators for rules and policy forming purposes.

For the academic, this research aims to add to the corporate governance literature in behavioural finance, especially in the area of gender and its impact on firm performance. For practitioners, this research provides a contribution to gender development in the boardroom, female executive training programs, as well as the female composition of boards of directors. For regulators, this research may contribute to gender representation in policies for boards and their rules and regulations.

Furthermore, this research also supports the International Finance Corporation (IFC) of The World Bank in its efforts to increase the number of female directors in Indonesian boardrooms. This research can build awareness of the contribution of women to firms and to encourage more women to participate. This research leads to future careers for women on boards of directors and women's career development programs generally.

LIMITATION

In practice, Indonesian public listed companies' tend to have more male directors than female directors. The real situation shows there are limitations to accommodating female directors due to the cultural perspective and people's perceptions of women. Moreover, this research

has not as yet examined the exact proportion of women in the boardrooms.

SUGGESTION FOR FURTHER RESEARCH

Some suggestions for further research are as follows:

1. To consider more deeply the gender aspect or the related attributes about gender in its impact on firm performance.
2. To use more control variables in creating the firm characteristics' construct.
3. The research could be more specific about the impact of female directors' behaviour on firm performance.

ACKNOWLEDGEMENTS

This research was supported by the Indonesian Endowment Fund for Education Scholarship (LPDP) from the Ministry of Finance, Indonesia.

REFERENCES

Adams, R. B., and Ferreira, D., 2009. "Women in the Boardroom and Their Impact on Governance and Performance". *Journal of Financial Economics*, 94, 291-309.

Campbell, K., and Vera, A. M, 2008. "Gender Diversity in the Boardroom and Firm Financial Performance". *Journal of Business Ethics*, 83 (3), 435-451.

Campbell, K., and Vera, A. M, 2010. "Female Board Appointments and Firm Valuation: Short and Long Term Effects". *Journal of Management Governance*, 14, 37-59.

Chakrabarty, S., and Bass, A. E., 2014. "Corporate Governance in Microfinance Institutions: Board Composition and The Ability to Face Institutional Voids". *Corporate Governance International Review*, 22, 367-386.

Darmadi, S., 2010. "Board Diversity and Firm Performance: The Indonesian Evidence". *Munich Personal RePec Archive Paper*, 38721.

Deloitte Global Center for Corporate Governance. Electronic source. Available at www2.deloitte.com/content/dam/Deloitte/global/Documents/Risk/gx-ccg-women-in-the-boardroom-a-global-perspectivepdf, at September 4th, 2016.

Dezso, C. L. and Ross, D. G., 2012. "Does Female Representation in Top Management Improve Firm Performance? A Panel Data Investigation". *Strategic Management Journal*.

Eagly, A. H., 1987. "Sex Differences in Social Behavior: A Social-Role Interpretation". Lawrence Erlbaum Associates, Hillsdale.

Eagly, A. H., and Johannesen-Schmidt, M. C., 2001. "The Leadership Styles of Women and Men". *Journal of Social Issues*, 57 (4), 781-797.

Ellwood and Garcia-Lacalle, J., 2015. "The Influence of Presence and Position of Women on the Boards of Directors: The Case of NHS Foundation Trusts". *Journal of Business Ethics*, 130, 69-84.

Erhardt, N. L., Werbel, J. D., and Shrader, C. B., 2003. "Board of Director Diversity and Firm Financial Performance". *Corporate Governance*, 11 (2). 102-111.

Folkman, Z., 2012. "A Study in Leadership: Women do it Better than Men". Accessed from http://zengerfolkman.com/media/articles/ZFCo.WP.WomenBetterThanMen.033012.pdf at September 20th, 2016.

Francoeur, C., Labelle, R. and Sinclair-Desgagne, B., 2008. "Gender Diversity in Corporate Governance and Top Management". *Journal of Business Ethics*, 81 (1), 83-95.

Frink, D. D., Robinson, R. K., Reithel, B., Arthur, M. M., Ammeter, A. P., Ferris, G. R., Kaplan, D. M., and Morrisette, H. S., 2003. "Gender Demography and Organization Performance". *Group and Organization Management*, 28 (1), 127-147.

Garcia-Meca, E., Garcia-Sanchez, I., and Martinez-Ferrero, J., 2015. "Board Diversity and Its Effects on Bank Performance: An International Analysis". *Journal of Banking and Finance*, 53, 202-214.

George, W., 2012. "Developing the Global Leader". *Harvard Business School Working Knowledge*. Accessed from http://hbswk.hbs.edu/item/developing-the-global-leader at Oktober 1st 2016.

Ghozali, H. I., 2016. "Aplikasi Analisis Multivariate dengan Program IBM SPSS

23". Badan Penerbit Universitas Diponegoro, Semarang.

Gujarati, D., 2004. "Basic Econometrics 4th Edition". McGraw-Hill, New York.

Gulamhussen, M. A. and Santa, S. F., 2015. "Female Directors in Bank Boardrooms and Their Influence on Performance and Risk Taking". *Global Finance Journal*, 28, 10-23.

Hambrick, D. C. and Mason, P. A., 1984. "Upper Echelon: The Organization as A Reflection of Its Top Managers". *Academy of Management Review*, 9 (2), 193-206.

Hambrick, D. C., 2007. "Upper Echelon Theory: An Update". *Academy of Management Review*, 32 (2), 334-343.

Helgeson. V. S., 2012. "The Psychology of Gender". Pearson Education, New Jersey.

Huang, J., and Kisgen, D., 2013. "Gender of Corporate Finance: Are Male Executives Overconfident Relative to Female Executives:". *Journal of Financial Economics*, 108, 822-839.

Ibarra, H. and Obodaru, O., 2009. "Women and the Vision Thing". *Harvard Business Review*. Accessed at https://hbr.org/2009/01/women-and-the-vision-thing at September 20th, 2016.

Jensen, M. C. and Meckling, W. H., 1976. "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure". *Journal of Financial Economics*, 3 (4), 305-360.

Joecks, J., Pull, K., and Vetter, K., 2013. "Gender Diversity in the Boardroom and Firm Performance: What Exactly Constitutes a "Critical Mass?". *Journal of Business Ethics*, 118, 61-72.

Jungmann, C. M., 2006. "The Effectiveness of Corporate Governance in One-Tier and Two Tier Board Systems: Evidence from the UK and Germany". *European Company and Financial Law Review*, 3 (4), 426-474.

Krishnan, H. and Daewoo, P., 2005. "A Few Good Women on Top Management teams". *Journal of Business Research*, 58, 1712-1720.

Labelle, R., Francoeur, C., and Lakhal, F., 2015. "To Regulate or Not To Regulate? Early Evidence on the Means Used Around the World to Promote Gender Diversity in the Boardroom". *Gender, Work and Organization*, 22 (4), 339-363.

Lam, K. C. K., McGuinness, P.B., and Vieito, J. P., 2013. "CEO Gender, Executive Compensation and Firm Performance in Chinese-Listed Enterprises". *Pacific-Basin Finance Journal*, 21, 1136-1159.

Levy, P. E., 2003. "Industrial/Organizational Psychology Understanding the Workplace". Houghton Mifflin Company, Boston.

Liu, Y., Zuobao, W., and Feixue, X., (2014). "Do Women Directors Improve Firm Performance in China?". *Journal of Corporate Governance*, 28, 169-184.

McKinsey & Company., 2007. "Women Matter: Gender Diversity, A Corporate Performance Driver". Accessed from http://www.raeng.org.uk/publications/other/women-matter-oct-2007 at September 1st, 2016.

McKinsey & Company., 2008. "Female Leadership, a Competitive Edge for the Future". Accessed from http://www.mckinsey.com/global-themes/women-matter at September 1st, 2016.

McKinsey & Company., 2010. "Women at the Top of Corporations: Making It Happen". Accessed from http://www.mckinsey.com/search?q=Women at the Top of Corporations Making it Happen at September 1st, 2016.

Miller, T. and Triana, M. C., 2009. "Demographic Diversity in the Boardroom: Mediators of the Board Diversity – Firm Performance Relationship". *Journal of Management Studies*, 46 (5), 755-786.

Peni, E., 2014. "CEO and Chairperson Characteristics and Firm Performance". *Journal of Management Governance*, 18, 185-205.

Pfeffer, J. and Salancik, G. R., 1978. "The External Control of Organizations: A Resource Dependence Perspective". Harper & Row, New York.

Post, C. and Byron, K., 2015. "Women on Boards and Firm Financial Performance: A Meta Analysis". *Academy of Management Journal*, 58 (5), 1546-1571.

Republik Indonesia., 2007. "Undang-Undang Republik Indonesia Nomor 40 Tahun 2007 tentang Perseroan Terbatas". Jakarta: Sekretariat Negara.

Smith, N., Smith, V., and Verner, M., 2006. "Do Women in Top Management Affect Firm Performance? A Panel Study of 2500 Danish Firms". *International Journal of Productivity and Performance Measurement*, 55 (2), 569-593.

Strom, R. D'Espallier, B. Mersland, R., 2014. "Female Leadership, Performance and Governance in Microfinance Institution". *Journal of Banking and Finance*, 42, 60-75.

T. Eckes and H. M. Trautner (Eds.)., 2000. "Social Role Theory of Sex Differences and Similarities: A Current Appraisal", *The Developmental Social Psychology of Gender*, 123-174.

Wood, W., and Eagly, A. H., 2002. "A Cross-Cultural Analysis of the Behavior of Women and Men: Implications for the Origin of Sex Differences". *Psychological Bulletin, 128,* 699-727.

APPENDIX

1. Classical Assumption Result

This study has passed the classical assumption test, consisting of the tests for normality, multicollinearity, autocorrelation and heteroscedasticity as follows.

1.1. Test for normality

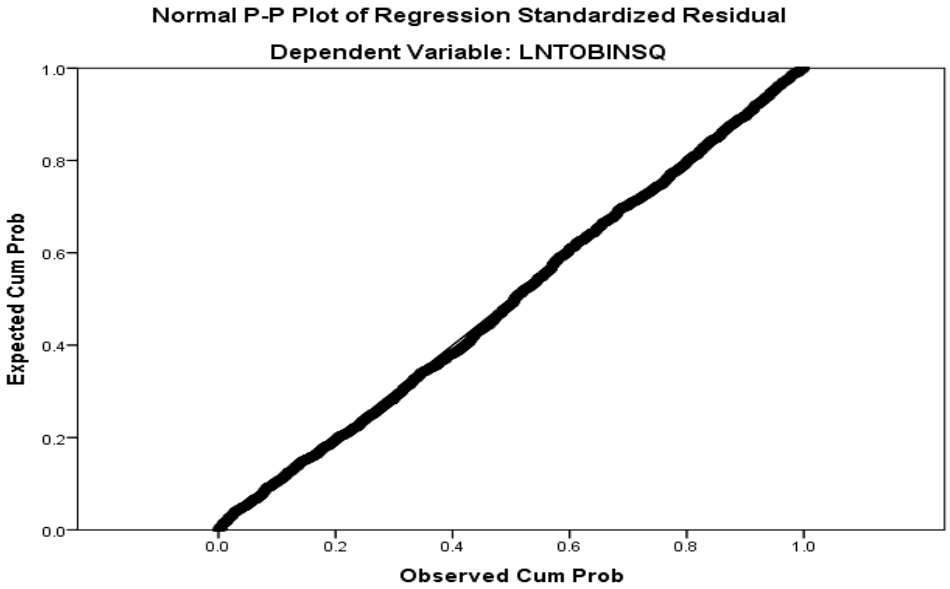


Figure 2. Test for Normality Result

Normal P-P plot indicates the data is normal. Beside using the normal P-P Plot for testing the normality, Kolmogorov-Smirnov indicates the significance level is 0.299 which means the observed data are normal (0.299 > 0.05). Thus, the normality assumption is complied with.

1.2. Test for multicollinearity

Table 5. Test for Multicollinearity Result

Variables	*Collinearity Statistics*		Conclusion
	Tolerance	**VIF**	
Female director	0.936	1.068	There is no multicollinearity
Leverage	0.905	1.106	There is no multicollinearity
Firm size	0.803	1.246	There is no multicollinearity
Firm age	0.895	1.118	There is no multicollinearity
Agriculture sector	0.852	1.173	There is no multicollinearity
Finance sector	0.619	1.615	There is no multicollinearity
Property, real estate and construction sector	0.708	1.412	There is no multicollinearity
Miscellaneous sector	0.745	1.342	There is no multicollinearity
Consumer goods sector	0.794	1.260	There is no multicollinearity
Mining sector	0.762	1.312	There is no multicollinearity
Infrastructure, utility and transportation sector	0.738	1.356	There is no multicollinearity
Basic industry and chemical sector	0.701	1.427	There is no multicollinearity

Table 5 indicates none of the tolerance scores are less than 0.1 and the Variance Inflation Factor (VIF) is more than 10, thus the multicollinearity assumption is complied with.

1.3. Test of autocorrelation

Table 6. Test for Autocorrelation Result

Dependent variable	***Durbin-Watson***
Firm performance	0.627

Durbin Watson scored 0.627 which is between -2 and 2. The score of *dl* is 1.915 and *du* is 1.927. Durbin Watson indicates a positive autocorrelation due to the nature of the economic data.

1.4. Test for heteroscedasticity

The data are dispersed and do not accumulate in any certain pattern. The pattern indicates there is no homoscedasticity. Thus, the heterescedasticity assumption is complied with.

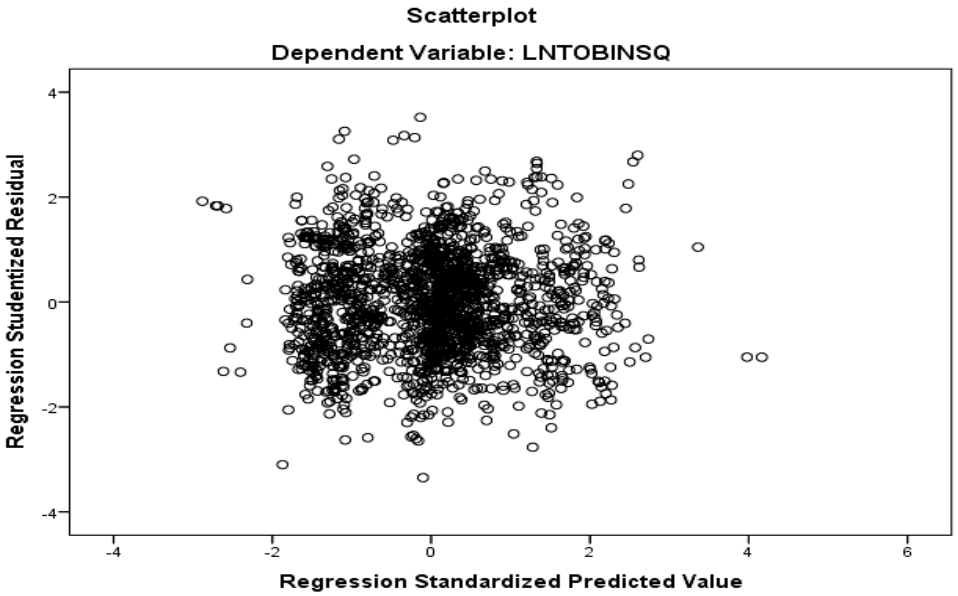


Figure 3. Test for Heteroskedasticity Result